

A B S T R A C T

A sensor cell includes a sensor electrode (101) formed on a substrate (100), a signal output unit (16) which outputs a signal corresponding to a capacitance (C_f) formed between the sensor electrode and the surface of a finger (3), a high-sensitivity electrode (103) formed on the substrate so as to be insulated and isolated from the sensor electrode, and a potential controller (14) which controls the potential of the finger surface via a capacitance (C_c) formed between the high-sensitivity electrode and the finger surface by controlling the potential of the high-sensitivity electrode. In this arrangement, when the resistance of the finger is high, the potential of the finger surface can be controlled so as not to fluctuate with the potential change of the sensor electrode. This makes it possible to increase the sensitivity of detection of the capacitance formed between the sensor electrode and the finger surface, so ridges and valleys of the finger surface can be clearly discriminated by outputs from a plurality of sensor cells.